GENERAL NOTES

Concrete:	All concrete shall conform to Mix. No. 6 (4500 psi).
Welded Steel Wire Fabric:	All wire fabric shall be 6 x 6 - W2.9 x W2.9.
Reinforcing Steel:	Reinforcing steel shall conform to ASTM A 615 Grade 60.
Structural Steel:	All structural steel conform to ASTM A 709 Grade 36 or better.
Anchor Bolts:	All anchor bolts shall be ASTM A 325 unless otherwise specified on details.
Connector Loop:	$\frac{3}{4}$"Φ galvanized or stainless steel rod. Stainless steel rods shall conform to ASTM A 276 for the type specified, galvanizing shall conform to ASTM A 153.
Connector Pin:	The $1\frac{1}{4}$" x 25" connector pin shall be a threaded rod or bolt conforming to ASTM A 307, Grade A. Nuts shall conform to ASTM A 563, Grade DH or DH3 or ASTM A 94, Grade 2H. Washers shall conform to ASTM F 436. The connector pin, nuts and washers shall be galvanized in conformance with ASTM A 153.
Other Connector Devices:	Contractor may use any other connection devices between barrier sections in lieu of the pin and loop, provided they appear on S.H.A. standard plates and have written approval of Chief Engineer.
Temporary Shield:	When specified on the Plans, a shield shall be connected to the temporary precast concrete barrier. The shield shall be designed, furnished, and installed by the Contractor. The height of the shield shall be 6 ft - 6 in. above the roadway surface, and shall have no cracks or openings through which material or debris can pass. The shield will not be measured but the cost will be incidental to the pertinent Temporary Concrete Traffic Barrier for Maintenance of Traffic item.

METHODS OF ANCHORAGE CONNECTION TO CONCRETE DECKS

EXISTING BRIDGE DECK TO BE REMOVED.

Holes for anchor bolts in existing bridge deck shall be drilled. Use $1\frac{1}{4}$"Φ bolts with $5\frac{1}{2}$" x $5\frac{1}{2}$" x $\frac{3}{4}$" square washer under existing deck slab, as shown. Bolts shall be of sufficient length that when nut is tight, all the threads of the nut are engaged. Provide Type 'A' plain washer SAE N (narrow) for each $1\frac{1}{4}$"Φ bolt at connection plate.

EXISTING BRIDGE DECK TO REMAIN.

Holes for anchor bolts in existing bridge deck shall be cored. Use $1\frac{1}{4}$"Φ bolts with $5\frac{1}{2}$" x $5\frac{1}{2}$" x $\frac{3}{4}$" square washer under existing deck slab, as shown. Bolts shall be of sufficient length that when nut is tight, all the threads of the nut are engaged. Provide Type 'A' plain washer SAE N (narrow) for each $1\frac{1}{4}$" bolt at connection plate. The Contractor is alerted that as little damage as possible shall be done to the existing reinforcement steel. Therefore, the Contractor shall locate the reinforcement steel and space the bolts to miss the reinforcement steel, all as directed by the Engineer. Fill all cored holes with epoxy grout after barrier is removed. (See below for grout composition).

NEW BRIDGE DECK

$1\frac{1}{4}$"Φ bolt to be placed in an epoxy coated open coil anchor insert (cast in slab) having a minimum working load tension strength of 16 000 lb and shear strength of 13 000 lb with a minimum $7\frac{1}{2}$" length. Coil to be tapped for a $1\frac{1}{4}$" N.C. thread bolt. No insert shall be longer than slab depth minus 1". Provide Type 'A' plain washer SAE N (narrow) for each $1\frac{1}{4}$"Φ bolt at connection plate. Fill all inserts with epoxy grout after barrier is removed. (See below for grout composition).

The Contractor may opt to utilize a $1\frac{1}{4}$"Φ bolt placed in a $1\frac{3}{8}$"Φ drilled hole filled with high strength resin in lieu of the coil insert. The anchorage system shall meet the same strength properties as specified for the coil inserts verified by pullout tests monitored by the SHA's Office of Materials and Technology.

GROUT COMPOSITION

Any areas of bridge decks, to remain in place, damaged as a result of anchoring temporary concrete barriers (anchor holes, etc.) shall be repaired to the satisfaction of the Engineer using an epoxy grout conforming to 902.11 (d).

Note:
The Contractor has the option of using either Jersey barrier or Type F barrier made prior to May 1, 2004 or this Type F barrier for temporary barrier until July 1, 2006, so long as only one type of barrier is used on this project.

APPROVAL
E.S. Freedman DIRECTOR OFFICE OF BRIDGE DEVEL.
DATE: 6/15/84

REVISIONS	
SHA	FHWA
5-21-04	·
6-28-04	·
8-5-04	·
11-29-04	·

FHWA APPROVAL
DATE: 1-23-85

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF BRIDGE DEVELOPMENT

TEMPORARY PRECAST DOUBLE FACE F-TYPE CONCRETE BARRIER

STANDARD NO. M(5.10)-84-158 SHEET 1 OF 4

MISCELLANEOUS